

MAT CUTTING MACHINE

BACKGROUND OF THE INVENTION

There has been a variety of picture mat cutters known in the prior art, including for example, the Shapiro and Perlmutter U.S. Pat. No. 3,463,041. The machine of the present invention, however, is adapted for a different purpose than any of the prior machines.

Therefore, it is the primary object and purpose of the present invention to provide a picture mat cutting machine which is capable of cutting a quantity of identical mats, one at a time, with uniform borders on all four of their sides, and without the need for readjusting the machine as the work progresses.

DRAWING SUMMARY

FIG. 1 is a perspective view of my machine;

FIG. 2 is a top plan view;

FIG. 3 is a fragmentary cross-sectional view taken on the line 3—3 of FIG. 2;

FIG. 4 is a fragmentary cross-sectional view taken on the line 4—4 of FIG. 2; and

FIG. 5 is a fragmentary cross-sectional view taken on the line 5—5 of FIG. 2.

PREFERRED EMBODIMENT

The mat M which is to be cut is a sheet of cardboard of moderate thickness, and this cardboard sheet may be perfectly square but more often it is rectangular. It is desired to cut a border of uniform width on all four sides of the mat. Furthermore, the cutting line is made at an angle in order to provide a beveled surface which is exposed to the viewer of the picture with which the mat is to be used. The use of such inclined or beveled edges has been known for quite some time, as will be shown for example, by the Umholtz U.S. Pat. No. 2,924,010.

My machine is provided with a base 10 which is of a generally rectangular configuration. A right hand side bar 11 is supported on the right hand side of the base 10, while a left hand side bar 12 is supported on the left hand side of the base. The two side bars are parallel to each other and are held in fixed positions on the base.

Across the front of the machine there is provided a guide bar 15. The guide bar extends in a fixed position between the two side bars, and may be selectively raised for inserting the mat M thereunder. In the illustrated embodiment, the mechanism for raising the guide bar is as follows. A pivot pin 16 secures the right hand end of guide bar 15 to the right hand side bar 11. The left hand end of guide bar 15 is provided with an extending handle portion 17. The guide bar rests in a notch 12a of the left hand side bar 12. When handle 17 is raised, the guide bar pivots from its right hand end, permitting mat M to be inserted, and then the guide bar is again lowered for retaining mat M securely upon the surface of base 10. A slide lock 18 is utilized to secure the left hand end of the guide bar in its lowered position.

A rear stop bar 20 extends between the two side bars and may be positioned either toward or away from the guide bar 15. The respective ends of the stop bar 20 are provided with slides which engage slideways formed in the right and left side bars, respectively. The left hand end of stop bar 20 has a protruding handle 21 which is used to establish the position of the stop bar. A position indicator 22 extends over a portion of the upper sur-

face of left hand side bar 12. Scale markings 13 on the upper surface of side bar 12 are utilized to indicate the position of the stop bar.

When the stop bar is placed in its desired position it is locked by means not shown. The insertion of mat M is then accomplished in a position where the rearward end of the mat is butted against the stop bar 20 while the right hand side is held against the right hand side bar 11. Lowering of the guide bar 15, as previously described, secures the mat in this working position.

A blade carriage 25 is slidably mounted upon the guide bar 15. A blade 26 is carried on the front side of the blade carriage. Blade 26 is selectively lowerable into the mat M for cutting the mat along a cutting line 27 as shown in FIG. 1.

In order to establish the location of the right hand end of the cutting line 27 a right hand carriage stop 30 is utilized. In the illustrated embodiment the carriage stop 30 is simply a pin which may be inserted into or removed from a hole in the guide bar 15. A series of such holes 19 are provided. Depending upon which hole is selected, the cutting line 27 will end either relatively close to the right hand side bar 11, or some distance further from it and thereby provide a wider border for the mat.

It is also necessary to establish the desired location of the left hand end of cutting line 27. In order to accomplish this purpose I use the combination of a left hand carriage stop 35 and a mat guide 40. According to the concept of my invention the left hand carriage stop 35 and mat guide 40 are supportingly attached together and movable relative to each other, with one of them being mounted upon the guide bar 15. Mat guide 40 engages the left hand edge of mat M. Left hand carriage stop 35 is then positioned relative to mat guide 40. This provides the stopping point for the traverse of carriage 25 to its extreme left hand position, and thereby establishes the location of the left hand end of cutting line 27.

In the present illustrated embodiment of the invention the left hand carriage stop 40 has arms or fingers 41 which slide along the surface of base 10 and butt against the left hand edge of mat M. The left hand carriage stop 35 is an elongated rod which fits slidably within an opening in the mat guide 40, and is adjustable in a direction parallel to the axis of guide bar 15. The stop 35 has scale markings 36 thereon which may be used for selecting a particular location of the stop. A set screw 37 is utilized to lock the stop in its selected position.

Another specific feature of the invention as presently illustrated is that guide bar 15 is a square bar but inclined at an angle so that one of its corners engages the mat M. The blade 26 is lowered in a direction generally parallel to one side of the guide bar. As shown in FIG. 5 it is preferred to form a recess R in the base 10 so that the blade end may project all the way through the mat M and somewhat therebeyond.

As will be understood by those skilled in the art, what has been described are preferred embodiments in which modifications and changes may be made without departing from the spirit and scope of the accompanying claims.

I claim:

1. A mat cutting machine comprising:
a generally rectangular base;

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right hand and left hand side bars disposed parallel to each other in fixed positions on said base;
a guide bar extending across the front of said base in a fixed position between said side bars, and selectively raisable for inserting thereunder a mat which is to be cut;
a rear stop bar extending between said side bars and positionable toward or away from said guide bar, the position of the mat being cooperatively established by said right hand side bar and said rear stop bar;
a blade carriage slidably supported upon said guide bar and having a blade selectively lowerable for cutting the mat along a line parallel to said guide bar;
a right hand carriage stop supported on the right hand end of said guide bar and positionable toward or away from said right hand side bar for establishing the right hand end of said cutting line; and

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a left hand carriage stop and a mat guide supportingly attached together and movable relative to each other, one being slidably mounted on said guide bar, so that when said mat guide engages the left side of the mat said left hand carriage stop may be adjusted to establish the left hand end of said cutting line.
2. The machine claimed in claim 1 wherein said mat guide is slidable on said guide bar.
3. The machine claimed in claim 2 wherein said left hand carriage stop is an elongated rod disposed parallel to said guide bar and slidingly supported in said mat guide.
4. The machine claimed in claim 1 wherein said guide bar is square and inclined with one corner toward said base, said blade being parallel to one side of said bar and disposed at an angle to said base.

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